



# Annual Report of the Commission for Educational Technology 2011

Submitted in Accordance with CGS Sec, 4d-80(c)(8)

Hartford, Connecticut

December 1, 2012

The Commission for Educational Technology was established in 2000 by Public Act 00-187. The Commission is composed of the (1) The Commissioner of Administrative Services, or the commissioner's designee, the Commissioner of Education and the president of the Board of Regents for Higher Education, or their designees, the State Librarian, or the State Librarian's designee, the chairperson of the Public Utilities Regulatory Authority, or the chairperson's designee, the chief executive officers of the constituent units of the state system of higher education, or their designees, (2) one member each representing the Connecticut Conference of Independent Colleges, the Connecticut Association of Boards of Education, the Connecticut Association of Public School Superintendents, the Connecticut Educators Computer Association, and the Connecticut Library Association, (3) a secondary school teacher designated by the Connecticut Education Association and an elementary school teacher designated by the Connecticut Federation of Educational and Professional Employees, and (4) four members who represent business and have expertise in information technology, one each appointed by the Governor, the Lieutenant Governor, the speaker of the House of Representatives and the president pro tempore of the Senate. CGS Section 4d-80 lists six statewide technology goals:

1. Connecting all institutions of higher education, libraries, public elementary and secondary schools, regional educational service centers and other parties through a state-wide high speed, flexible network that will allow for video, voice and data transmission.
2. Wiring all school classrooms and connecting them to the Internet and to the state-wide high speed network through wired, wireless, or any other digital transmission technology providing high speed connectivity;
3. Providing access for all public schools, public libraries and libraries at institutions of higher education to a core set of on-line full text resources and to the ability to purchase collaboratively for other collections in order to maximize buying power;
4. Ensuring, in cooperation with the State Board of Education, competency in computing skills by the sixth grade for all students;
5. Ensuring competency in specific computing skills and the integration of technology into the curriculum for all public school teachers; and
6. Ensuring that institutions of higher education offer a wide range of course and degree programs via the Internet and through other synchronous and asynchronous methods.

The Commission is required to report annually on its activities and progress made in the attainment of the state-wide technology goals, and provide recommendations to the joint standing committee of the General Assembly having cognizance of matters relating to education and appropriations and the budgets of state agencies, the State Board of Education, and the Board of Governors of Higher Education.

### **Agency Mergers Affect the Commission's Board**

In 2011, the General Assembly enacted several pieces of legislation that impacted the composition of the Commission. Public Act 11-48 created the Board of Regents as a successor to the Board of Governors of Higher Education. "Board of Governors of Higher Education" and "Commissioner of Higher Education"

were changed editorially by the Revisors to "Board of Regents for Higher Education" and "President of the Board of Regents for Higher Education", respectively, effective July 1, 2011. Public Act 11-51 amended Subsec. (a) to place the commission within Department of Administrative Services and to change "Chief Information Officer of the Department of Information Technology" to "Commissioner of Administrative Services", effective July 1, 2011. Pursuant to Public Act 11-80, "Department of Public Utility Control" was changed editorially by the Revisors to "Public Utilities Regulatory Authority" in Subsec. (a)(1), effective July 1, 2011.

## **Meetings of the Commission for Educational Technology**

The Commission met only once in 2011. The meeting was held on March 31, 2011 at Charter Oak College. This was due in part to the transition to a new administration, proposed legislation and budget reductions that raised uncertainty about future of the Commission, and the mergers mentioned above.

## **CET Leadership**

Karen Kaplan, who had been serving as the Executive Director of the CET as part of her position in the State Department of Education, left state service for a position in the Hamden Schools in the summer of 2010. Karen's departure left a large gap in the leadership of the Commission and the position has remained vacant.

The State of Connecticut received federal stimulus funding to create a Strategic Plan for Accessibility to and Adoption of Broadband Services in Connecticut. The Connecticut Academy of Science and Engineering (CASE) conducted a study on behalf of the Office of Consumer Counsel and the Public Utilities Regulatory Authority, Department of Energy and Environmental Protection for the purposes of providing guidance for the state to use in its formulation of the strategic plan. The Connecticut Economic Resource Center was engaged by CASE to conduct the research for the study. Kendall Wiggin, State Librarian and Chair of the CET served on the Study Committee.

The CASE Study Committee found that even though the state has benefited from broadband infrastructure investments by the private and public sectors, Connecticut lacks coordination among broadband policy makers and does not have clearly defined broadband goals. In researching other states and nations, one common thread that was evident among broadband leaders was a need for a clearly defined goal and actionable steps to achieve that goal. The state needs a broadband strategic plan that establishes goals and objectives, continues the initiatives already underway in the state, and leverages public and private investments.

*Guidelines for Development of a Strategic Plan for Accessibility to Broadband Services in Connecticut* was issued in December 2011 by CASE. The report's Findings and Recommendations focused on five areas: State Organization; Broadband Goals and Progress Metrics; Adoption of Broadband; Pole Attachment and Cell Tower Siting Processes; and Broadband Infrastructure and Access.

The first recommendation (and the one that most affects the CET/CEN) is the creation of a broadband cabinet. The report concluded that working within the existing entities in the state that focus on broadband policy, this proposed coordination structure, the broadband cabinet, seeks to create a link between all the entities and ensure strong coordination and communication. The broadband cabinet creates a comprehensive process, shared by the legislative and administrative branches of government, to deliberate, develop and monitor effectiveness of broadband policy.

The report's authors also found that since open access to the CEN is required as part of receiving ARRA funding, it is important to review the leadership, vision, mission, goals, sustainability, and management structure of the CEN so that it may adapt to the possible future demands on the fiber network.

## **Connecticut Education Network (CEN)**

### **CEN Overview**

CEN is America's first statewide K-12 and higher education network to be built exclusively using state-of-the-art fiber optic connections. Initially established in 2000, CEN provides a high speed, redundant, connection to every K-12 school district - over 240 schools, and over 180 public libraries in the state. These institutions that are on the front line of education reform, use CEN to access the Internet, Internet2, iCONN, and thousands of other resources exclusively targeted to students, teachers, researchers, and administrators.

There are a total of 244 individual CEN connections to Connecticut's public K-12 school districts, including 18 of the state's technical high schools and 16 Charter schools. As CET policy dictates, it is each district's responsibility to connect the rest of its school buildings to its local CEN-connected building.

CEN maintains connections to 183 library sites, including 166 principal public libraries.

Through the "Network Participation, Acceptable Use and Sponsored Participant Interconnection" policy, adopted by the CET in 2009, CEN has provided connectivity to the following participants: The Gunnery, Suffield Academy, The Connecticut Center for Advanced Technology, Choate Rosemary Hall, The Williams School, Hopkins School, Kent School, Hotchkiss School, and the Connecticut Science Center. CEN will be connecting Taft School in the near future.

There are a total of 52 individual CEN connections to higher education campuses and facilities, including Connecticut's Department of Higher Education, 14 of the state's community colleges campuses, and the Community Colleges Systems Office.

In addition to providing enhanced Internet access and opportunities for virtual collaboration, Connecticut's provision of CEN connectivity to public school districts continues to save millions of dollars statewide each year. Additional savings also have been realized by public libraries.

The state filed applications under the Federal E-Rate program for CEN connections to schools and libraries, and received over \$600,000 in E-Rate discounts for fiscal year 2012.

As in previous years the insatiable demand for bandwidth continues. Between May 2011 and May 2012 CEN saw an average of a 45% increase in traffic across all our member sites and an average of 50% increase across our public K12 sites. CEN anticipates that this trend to continue for the foreseeable future.

### **Disaster Recovery Activities**

CEN has assisted with many initiatives related to Disaster Recovery and Business Continuity at our members' request. CEN staff in collaboration with NEREN (Northeast Research and Education Network) developed a disaster recovery site, Safe Harbor, for CEN members. The Safe Harbor program enables CEN members such as colleges and universities to leverage a facility in Springfield, MA to maintain service and web presence in the event their campus experiences a disruption additionally many use the facility to safe guard and back up data. Currently CEN, Fairfield University, Sacred Heart University, Wesleyan University and Quinnipiac University, UCONN Foundation, Connecticut College, Rensselaer at Hartford, Saint Joseph's College, University of Hartford, Wesleyan University, CSU System Office, the University of Bridgeport, Connecticut's Community Colleges, and Charter Oak State College have installed equipment at the Safe Harbor site. Another example of how CEN staff and the network has enabled business continuity or disaster recovery and can be leveraged is in similar ways to how the network has been able to establish back-up Internet service for Core-CT, the State's financial, human resources, and payroll system, in the event of a primary Internet service outage or for the State Armory in the event that there was a service outage during a natural event.

### **Content Filtering**

In 2008, CEN implemented a new filtering system called M86 Security. A number of school districts have benefited from CEN's M86 Security license purchase and have decided to invest in their own local filtering appliance. Approximately 85% of the school districts are using M86 Security as provided by CEN, either with their own local device or through our centralized solution. Feedback continues to be positive for the M86 Security filter. The contract for these services will expire in March 2013 and CEN will be advertising for a new Request for Proposal in the coming months. We would like to engage our members and users of this service in the RFP process and have informally done this in the past with the Network Advisory committee formed under the CET.

## BTOP Update

The upgraded Connecticut Education Network (CEN) is underway !

Connecticut was awarded \$94 Million from the Broadband Technologies Opportunities Program (BTOP), which we are using to improve both Education and Public Safety communications. This grant includes \$35 Million that will support the refresh of CEN network equipment across CEN's backbone and at the new or upgraded public schools and public libraries on the backbone. This investment positions CEN to meet exploding networking growth needs in our education community.

The complete core of the network has been upgraded to a service provider class network including and optical DWDM network layer with 100GB capabilities. The network leverages service provider technologies and adheres to open standards.

As a further condition of the federal grant, the network must begin to support "Open Access" use of the network. Open Access allows for any entity to join the network at a fair price without discrimination. We anticipate many municipalities, state agencies and some public companies will be interested in using the network. The CEN team is working to develop the processes required to provide this access, yet also maintain the vibrancy and original goals of the CEN.

The BTOP grant contains strict timing requirements for completion of the work and these timelines will not be modified. There is an absolute need to ensure that nothing endangers meeting the grant deadlines of 66% completion by September of 2012, and project completion by September of 2013. We reached the 66% milestone ahead of time, this past July but remain focused and our immediate emphasis is focused on the grant program and continuation of upgrading the network, and ensuring use for all active participants.

During the BTOP grant period, CEN will be running its legacy network on top of its new network. The new network provides 4TB with 100GB technology and the ability to scale to 8TB in the network core. Into our member sites the new network provides a 10G backbone with 1G handoffs by default. The legacy network supports a 10G network core and 1G backbone with default 100M handoffs. We will continue to operate, two networks, the new network and legacy network until the funding allows us to completely migrate the legacy network and member site equipment onto the new network. Running two networks on different technologies adds complexity as well as increased overhead. We are working diligently to advocate for funds and secure funding to complete the migration of the legacy sites over to the new network.

## iCONN

As part of the Connecticut Education Network, iCONN ([www.iconn.org](http://www.iconn.org)) provides all students, faculty and residents with online access to



essential library and information resources. It is administered by the Connecticut State Library. Through iCONN, a core level of information resources including secured access to licensed databases is available to every citizen in Connecticut. In addition, specialized research information is available to college students and faculty. In April 2011 iCONN marked its 10<sup>th</sup> year of continuous operation.

The Goals of iCONN are:

- To ensure universal access to a core level of library and information resources for every resident of Connecticut through their public library, school, college, and from home
- To help provide necessary information resources to every school in Connecticut so that all students are prepared to function in an information society
- To provide information resources to the increasing number of students taking advantage of on-line courses at Connecticut's colleges and universities
- To support the information needs of all Connecticut citizens

## Budget

The budgets for iCONN and reQuest were restored sufficiently to restore access to CINAHL Full Text through iCONN for academic libraries and to ProQuest National Newspapers for all libraries. This includes the *Christian Science Monitor*, *Los Angeles Times*, *New York Times*, *Wall Street Journal* and *Washington Post*. It also allowed us to restore all cover art, professional reviews and related record enrichments in reQuest.

Mid-fiscal year, the Governor announced a 5% cut to the iCONN database line item. Fortunately, we were able to use a combination of surplus money and federal funds to absorb the cut with no loss in resources.

## Annual Savings / Cost Avoidance (FY 2012)

The value of all iCONN databases to local communities exceeds \$79 million in one year (including a one-time cost of \$46,571,740 for the purchase of 77 e-reference books) while the annual cost to provide

*iCONN resources have been invaluable for the students in my district. The funding my library receives is inadequate to meet the level of quality credible content that iCONN provides for our students. Databases are the ultimate 21st century information sources. They provide large quantities of current, credible and comprehensive information. Having so many available allows us to develop the skills necessary to develop students into discerning information consumers. They are (currently) accessible thanks to iCONN services and they are the first place I send my students when they start research on most topics.*

—Thomas Vaghini, Stafford High School

---

*Thank you so much for access to iCONN. We use it all the time with our students - don't know how we could do it without you.*

—Sarah Ludwig, Academic Technology Coordinator, Hamden Hall Country Day School, Hamden

---

*Thank you Connecticut for having such a resource for each and every citizen.*

— Pat Gherlone, Teacher, North Haven

both iCONN and the statewide library catalog is in excess of \$2.2 million -

<http://www.cslib.org/iconnsitemap/documents/CostBenefit.pdf>.

## **Usage (FY 2011)**

For iCONN's licensed full-text databases, there were a total of 7,567,938 page views (a measure of when search results are actually viewed): 1,572,586 or 20.8% from public library patrons; 1,204,976 or 15.9% from school library patrons; and 4,790,376 or 63.3% from college library patrons. The total page views represent an 8.9% decrease compared with the previous year, while the total number of attempts to access the service decreased by 5.3% (but are still 22% above FY 2009). The drop in page views and access attempts can be attributed to the fact that, due to budget cuts, there were fewer resources to search as well as diminished ability to promote awareness of the resources we have, and no new resources to garner attention and spur demand.

Downloadable audiobooks were checked out 15,778 times, a 15% increase over the previous year.

The statewide library catalog ("reQuest") was searched 1,365,140 times, a 41% decrease compared with last year, and there were 1,592,243 full record views, a 30% increase compared with last year. Over 200 libraries successfully lent 134,731 items through reQuest, a 3% increase over the previous year. Holdings in reQuest increased to 22.6 million items, a 2% increase over last year, and the number of records (unique titles) increased to 5.2 million.

The *Treasures of Connecticut Libraries* digital collection had 89,522 item views, an 89% increase over FY2010. It remained the third most popular State Library collection behind the Aerial Photographs and Law & Legislation collections. 42 libraries and their partnering institutions were represented in the collection, which grew from 385 to 1077 objects. Information about the Treasures project can be found at:

[http://www.webjunction.org/content/webjunction/documents/ct/Treasures\\_of\\_Connecticut\\_Libraries.html](http://www.webjunction.org/content/webjunction/documents/ct/Treasures_of_Connecticut_Libraries.html).

The *Newspapers of Connecticut* digital collection project came about as a result of interest expressed in digitizing newspapers as a format by libraries in the *Treasures of Connecticut Libraries* project. A pilot project began to select and digitize a sampling of Civil War era newspapers in Connecticut. The first issues were added in March 2011. A total of 180 newspaper issues from seven newspaper titles were added to the collection. Titles are being added on an ongoing basis. The *Newspapers of Connecticut* collection had 1672 item views in FY 2011. Information about the project can be found at:

<http://cslib.cdmhost.com/cdm/landingpage/collection/p15019coll9>.

## **Increasing Usability and Removing Barriers to Access**

Database provider Gale Cengage launched several enhancements to PowerSearch on August 1. All "In Context" resources (Biography, History and Science) are now included in all PowerSearch queries. Other enhancements included:



- Search Assist: a drop down menu of suggested terms displays as the user keys in search terms
- Content types appear to the left, videos and podcasts to the right
- More search limiter choices
- Enhanced subject guide searching, with new limiters
- Advanced search with search assist and more limiters

Database provider ProQuest implemented a new platform with improved searching, enhanced usability, and social networking capabilities. In the new interface, users can create their own My Research accounts for bookmarking, tagging, alerts, RSS feeds and to set preferences. Searching now includes auto-complete, spell check, and keyword in context. Other enhancements include article preview, faceted navigation, filtering by date slider, and more.

## Content

To help meet the growing demand for e-books with no new funding to satisfy the demand, the iCONN staff implemented a web page with links to millions of *free* downloadable e-Books from Google, the Internet Archive, ManyBooks, the Online Books Page, and Project Gutenberg at <http://www.cslib.org/iconnsitemap/staff/FreeEbooks.aspx>. The site also includes links to free e-books for the Kindle and the Nook. A separate free e-books site was created for elementary school students at <http://www.cslib.org/iconnsitemap/staff/FreeEbooksForElementarySchools.aspx>.

The Free E-Books site on iCONN at <http://www.cslib.org/iconnsitemap/staff/FreeEbooks.aspx> was expanded to include an Individual Works section in order to preview a scholarly work by Trinity College Professor Jack Dougherty and colleagues entitled, *On the Line: How Schooling, Housing, and Civil Rights Shaped Hartford and its Suburbs*. The author's decision to make this work freely accessible on the Web presented a rare opportunity for iCONN to preview a new and innovative scholarly work in its entirety.

We developed a directory of resources on the American Civil War at <http://www.cslib.org/iconnsitemap/staff/CivilWar.aspx>.

## Market Research & Needs Assessment

Based on focus group meetings with public, school and academic librarians conducted in 2010 and 2011, iCONN, including the statewide library catalog, consistently ranks in the top tier of State Library services most important to libraries. In the most recent survey, a large percentage of respondents gave high scores (and many testimonials) to iCONN for:

- the degree to which the program has had a positive impact on library services in their library
- the degree to which the program has had a positive impact on library services statewide

In the 2010 focus groups, when asked to state which three Connecticut State Library services were the most important to them, public, school and academic librarians designated iCONN, reQuest and the Connecticut delivery service as the top three.

Gale Cengage's ForeSee online user satisfaction survey covering most of the Gale products used in iCONN captured data from 374 respondents (300 is the threshold for statistical significance) from August 2009 to October 2011. The survey results rated a score of 70 as the target for satisfaction and 80 as a threshold for excellence. The survey found the overall level of satisfaction with iCONN across a number of scales was 62. The highest levels of satisfaction were for Content (72), Site Performance (74), Likelihood to Return (74) and Would Recommend (69). User demographics show that students are the largest block of users (46%), and that 49% of the use of iCONN is for school assignments. Awareness of iCONN is primarily driven by librarians (33%), school or library websites (32%) and teachers (17%). 55% of users access iCONN from outside the school or library. Significantly, *70% of users trust the content in iCONN more than the content found through web search engines.*

## **2011 Members**

**Chair:** Kendall Wiggin, State Library

**Vice Chair:** Marc Herzog, Connecticut Technical Colleges

**Donald Blevins**, Connecticut Association of Boards of Education

**Russell Feinmark**, Representing Speaker of the House James Amann

**Patricia Fusco**, Representing Connecticut Federation of Teachers

**Kathy Giotsas**, Connecticut Library Association

**Judith Greiman**, Connecticut Conference of Independent Colleges

Connecticut State University System

**Ed Klonoski**, Charter Oak State University

**David Gilbertson**, University of Connecticut

**Rich Mavrogeanes**, Representing President Pro-Tempore of the Senate Donald Williams

Department of Education

Department of Higher Education (Board of Regents, effective July 1)

**Anthony Palermino**, Department of Public Utility Control (Public Utilities Regulatory Authority, effective July 1)

**Cheryl Prevost**, Connecticut Education Association

**Bill Silver**, Connecticut Association of Public School Superintendents

**Joshua Smith**, Connecticut Educators Computer Association

**Bart Stanco**, Representing Governor

Department of Information Technology (Department of Administrative Services, effective July 1)